

What is claimed is:

1. A prediction analysis apparatus, comprising:  
a prediction unit predicting a result value  
5 corresponding to one or more attribute values of  
unknown data using known data indicating  
correspondence between one or more attribute values  
and corresponding result values; and  
an analysis unit outputting analysis  
10 information indicating how at least one attribute  
value of the unknown data is to be amended to  
change a result value predicted by said prediction  
unit into a desired prediction value.
- 15 2. The apparatus according to claim 1, wherein  
said analysis unit extracts known data having  
the desired prediction value as a result value, and  
having one or more attribute values similar to one  
or more attribute values of the unknown data from  
20 know data, and outputs the extracted known data as  
the analysis information.
3. The apparatus according to claim 2, wherein  
said analysis unit extracts known data similar  
25 to the unknown data from the known data with an

importance factor of each attribute taken into account.

4. The apparatus according to claim 3, wherein  
5 said analysis unit uses an influence factor on a result value from each attribute obtained by memory-based reasoning as the importance factor.

5. The apparatus according to claim 3, wherein  
10 said analysis unit uses a weight obtained from learning of a structured neural network as the importance factor.

6. The apparatus according to claim 2, wherein  
15 said analysis unit generates one piece of known data by performing a predetermined operation on plural pieces of known data when the plural pieces of known data are extracted from the known data, and outputs the generated known data.

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7. The apparatus according to claim 2, wherein  
said analysis unit outputs predetermined pieces of known data in order from data most similar to the unknown data in plural pieces of  
25 known data when the plural pieces of known data are

extracted from the known data.

8. The apparatus according to claim 1, wherein  
said analysis unit outputs at least one  
5 attribute value of unknown data whose desired  
prediction value is to be predicted as a result  
value, or an amount of a change into the at least  
one attribute value as the analysis information.

10 9. The apparatus according to claim 8, wherein  
said analysis unit specifies the at least one  
attribute value of unknown data whose desired  
prediction value is to be predicted as a result  
value, or an amount of a change into the at least  
15 one attribute value through a neural network.

10. The apparatus according to claim 1, wherein  
said analysis unit refers to a decision tree,  
specifies a path through which the desired  
20 prediction value is to be predicted as a result  
value of the unknown data, extracts known data  
whose result value is predicted through the  
specified path, and outputs the extracted known  
data as the analysis information.

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11. The apparatus according to claim 10, wherein  
said analysis unit also outputs a certainty  
factor in the specified path.

5 12. The apparatus according to claim 1, wherein  
when a result value of unknown data is  
predicted by referring to rules indicating one or  
more condition units presenting a condition of the  
attribute value and a result value under a  
10 condition indicated by the condition units, said  
analysis unit changes a condition indicated by a  
condition unit in the condition units of a rule  
used to predict a result value of the unknown data  
in the rules so that a rule to be referenced in the  
15 rules for prediction of the desired prediction  
value as a result value of the unknown data, known  
data whose result value can be predicted based on  
the specified rule and which has a desired  
prediction value as the result value can be  
20 extracted, and the extracted known data can be  
output as the analysis information.

13. The apparatus according to claim 1, wherein  
said analysis unit sets an attribute whose  
25 attribute value is to be changed in attributes of

the unknown data, and obtains the analysis information by changing the attribute value of the set attribute.

5        14.    The apparatus according to claim 13, wherein  
              said attribute to be changed can be set by a  
              user in an interactive mode.

10        15.    The apparatus according to claim 13, wherein  
              said analysis unit sets the attribute to be  
              changed with an importance factor of each attribute  
              taken into account.

15        16.    The apparatus according to claim 15, wherein  
              said analysis unit uses an influence factor on  
              a result value from each attribute obtained by  
              memory-based reasoning as the importance factor.

20        17.    The apparatus according to claim 15, wherein  
              said analysis unit uses a weight obtained from  
              learning of a structured neural network as the  
              importance factor.

25        18.    The apparatus according to claim 13, wherein  
              said analysis unit sets a search range of an

attribute value of an attribute set to be changed,  
and obtains the analysis information by changing an  
attribute value of the attribute set to be changed  
in a corresponding search range.

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19. A prediction analysis apparatus, comprising:

a prediction unit predicting a result value  
corresponding to one or more attribute values of  
unknown data according to predicting information  
for predicting the result value; and

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an analysis unit outputting analysis  
information indicating how at least one attribute  
value of the unknown data is to be amended to  
change a result value predicted by said prediction  
unit into a desired prediction value.

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20. A computer-readable storage medium storing a  
program used to direct a computer to perform the  
processes of:

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predicting a result value corresponding to one  
or more attribute values of unknown data using  
known data indicating correspondence between one or  
more attribute values and corresponding result  
values; and

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outputting analysis information indicating how

at least one attribute value of the unknown data is to be amended to change a result value predicted in said predicting process into a desired prediction value.